NOCTUA NH-P1
INSTALLATION MANUAL

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! LGA1700, LGA1200 & LGA115x

Dear customer,

Thank you very much for choosing the Noctua NH-P1.

The NH-P1 is Noctua's first passive CPU cooler and has been custom-designed for fanless operation from ground up: In enclosures with good natural convection, its six heat pipes and thick, widely spaced heat sink fins enable it to cool modern high-end CPUs with low to moderate heat dissipation completely passively.

Please take a look at our setup guidelines in order to make sure that you will get optimal results.

Enjoy your NH-P1!

Yours sincerely,

Roland Mossig, Noctua CEO

Caution: In order to get optimal results when building passively cooled systems using the NH-P1, it is important to follow some general guidelines.

Please refer to the following page for detailed guidelines and recommendations on how to set up your system for best results: https://noctua.at/en/nh-p1-setup-guidelines.

The NH-P1 strictly requires either a fanless PC case with good natural convection, an open benchtable type setup or a PC case with fans in order to achieve its full performance. We offer a list of recommended cases for completely fanless systems using the NH-P1: https://noctua.at/en/nh-p1-recommended-cases.

While the NH-P1 provides first-rate performance for a passive cooler, it is not suitable for overclocking or CPUs that create high heat loads. Please note that the TDP (Thermal Design Power) rating or amount of heat dissipation that the cooler can handle not only depends on the chassis and various other factors such as ambient temperature or other components inside the system, but also generally varies from CPU model to CPU model.

For this reason, we don't give a general TDP specification but rather refer to our CPU compatibility list where we indicate which heat load the cooler can be expected to support on a particular CPU in a fully optimised setup (see our setup guidelines): https://noctua.at/en/nh-p1/cpucomp.

If necessary, Noctua recommends adding a near-inaudible 120mm fan like the NF-A12x25 LS-PWM to the heat sink for improved performance headroom.

This manual will guide you through the installation process of the SecuFirm2™ mounting system step by step.

Prior to installing the cooler, please consult the compatibility centre on our website (ncc.noctua.at) and verify that the cooler is fully compatible with your motherboard.

Please also make sure that your PC case offers sufficient clearance for the cooler and that there are no compatibility issues with any other components (e.g. tall RAM modules).

Double check that the heatsink and fan clips do not make contact with the VGA card, other PCIe cards, motherboard heatsinks or any other components.

Noctua cannot be held responsible for any damage or losses caused by compatibility issues.

Should you encounter any difficulties, please check the FAQs on our website (www.noctua.at/faqs) and don't hesitate to contact our support team at support@noctua.at.

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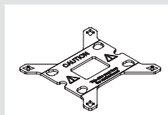
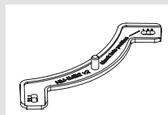
Required mounting parts:



1x NM-IBP4
backplate



2x NM-IMB2
mounting bars

4x NM-ICS1
clip-on spacers

4x NM-ITS1-TX
thumb screws

4x NM-IBT5
bolts

4x NM-IPS1
black plastic spacers for
LGA1200/115x

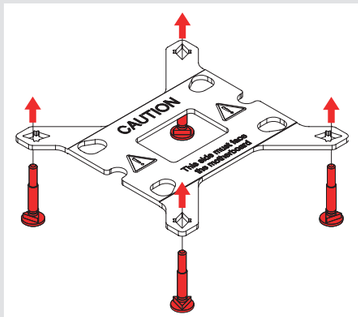
4x NM-IPS3
blue plastic spacers for
LGA1700

1 Removing the motherboard

If you would like to use the cooler on an assembled system and your case does not have a cut-out at the rear side of the motherboard tray, you must first remove the motherboard from the case in order to be able to install the supplied backplate.

2 Setting up the backplate

First, identify the side of the backplate that should face the motherboard (marked with caution signs). Then choose the appropriate hole spacing for your socket and insert the four bolts into the backplate from the opposite side (marked with model name, SecuFirm2™ branding and numbers for hole spacing) at the appropriate position.

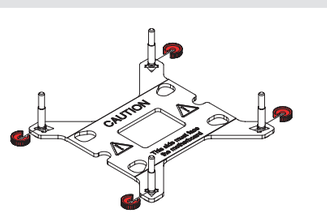


Use hole position 1 for LGA1200/115x (LGA1150, LGA1151, LGA1155, LGA1156) and hole position 2 for LGA1700 (LGA17xx family):

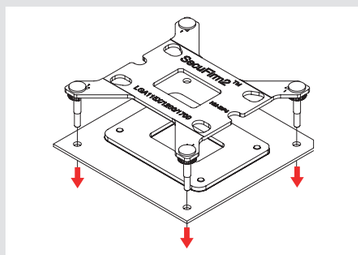
Position 1:
LGA1200/115x

Position 2:
LGA1700

Fix the bolts using the NM-ICS1 clip-on spacers. Note that 2 extra clip-on spacers are supplied in case any are lost or damaged when removing the bolts at a later point.



3 Attaching the backplate



Caution: The supplied backplate will install over the motherboard's stock backplate, so the motherboard's stock backplate must not be taken off.

Place the backplate on the rear side of the motherboard so that the bolts protrude through the mounting holes.

4 Installing the mounting bars

Please first choose the correct set of plastic spacers and the correct set of holes on the mounting bars according to whether you are using an LGA1200/LGA115x (LGA1150, LGA1151, LGA1155, LGA1156) or an LGA1700 (LGA17xx family) socket motherboard.

Use the black NM-IPS1 plastic spacers for LGA1200/LGA115x (LGA1150, LGA1151, LGA1155, LGA1156) and the blue NM-IPS3 spacers for LGA1700 (LGA17xx family).

LGA1200/115x

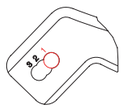
NM-IPS1 (black)

LGA1700

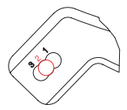
NM-IPS3 (blue)

Use hole position 1 for LGA1200/115x (LGA1150, LGA1151, LGA1155, LGA1156) and hole position 2 for LGA1700 (LGA17xx family):

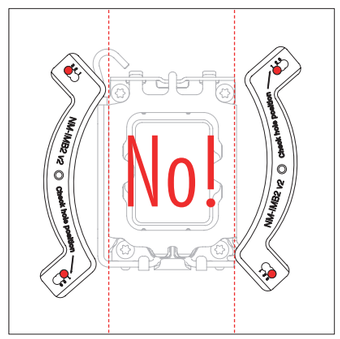
Position 1:
LGA1200/115x



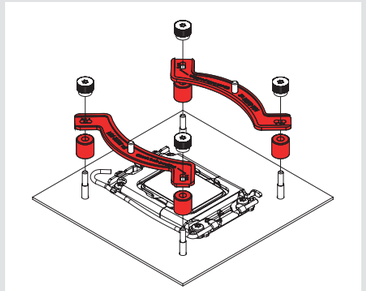
Position 2:
LGA1700



Caution: Make sure to use the correct hole position on both ends of the NM-IMB2 mounting bars so that they will not be misaligned.

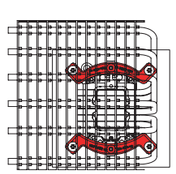


Put the plastic spacers onto the bolts of the backplate, then add the mounting bars.

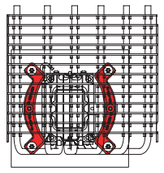


Caution: Choose the alignment of the mounting bars according to the desired final orientation of the cooler.

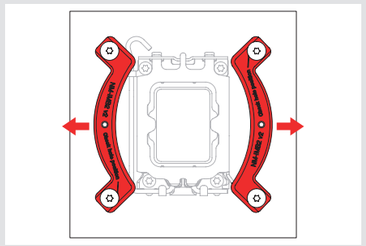
Orientation A



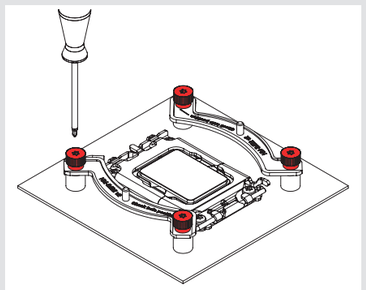
Orientation B



Caution: Make sure that the curved sides of the mounting bars are pointing outwards.



Fix the mounting bars using the four NM-ITS1-TX thumb screws.

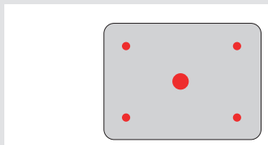


Caution: Gently tighten the screws until they stop, but do not use excessive force (max. torque 0.6 Nm).

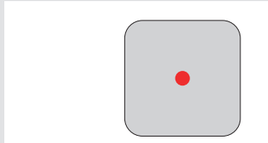
5 Applying the thermal paste

If there are residual traces of thermal paste or thermal pads on your CPU, please clean them off first. Then apply the supplied NT-H2 thermal paste onto the CPU as shown in the following images.

For LGA1700 (LGA17xx family), apply 5 small dots; 4 dots with ~2mm diameter near the corners plus 1 dot with 3-4mm diameter in the centre:



For LGA1200/115x (LGA1150, LGA1151, LGA1155, LGA1156) apply a single 4-5mm dot in the centre:

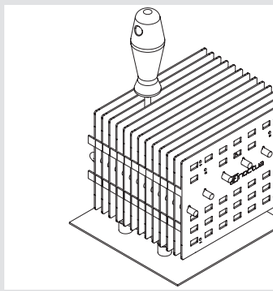


Caution: Applying too much thermal paste will lower heat conductivity and cooling performance!

6 Fastening the heatsink to the CPU

Caution: Please first take off the protection cover at the bottom side of the heat sink.

Then put the heat sink onto the CPU and screw it to the screw threads of the mounting bars. Note that you can reach through the blades of the fan using the supplied screwdriver. Perform 2-3 turns on each screw, then repeat until both are fully tightened.



Caution: Gently tighten the screws until they stop, but do not use excessive force (max. torque 0.6 Nm).

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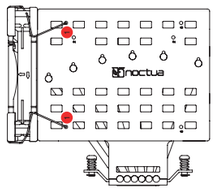
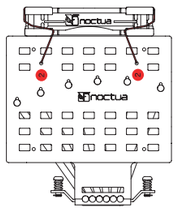
7 Fan setup

While the NH-P1 has been designed for passive operation, its cooling performance can be significantly improved by adding a near-silent low-speed fan such as the NF-A12x25 LS-PWM. In order to install the fan using the supplied fan mounting clips, please first decide on which side of the cooler you would like to install the fan and identify the correct hole set (1/2/3):

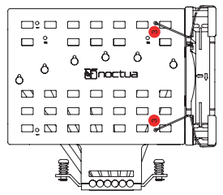
Hole set 1



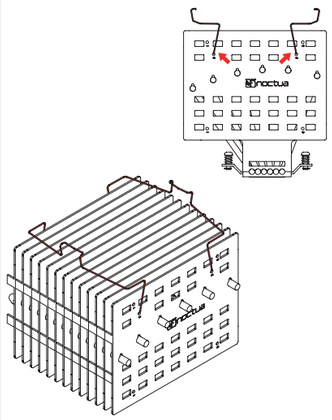
Hole set 2



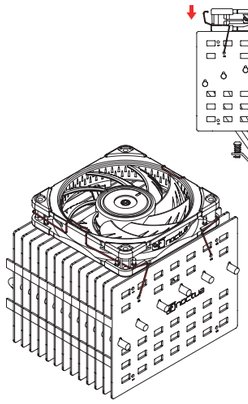
Hole set 3

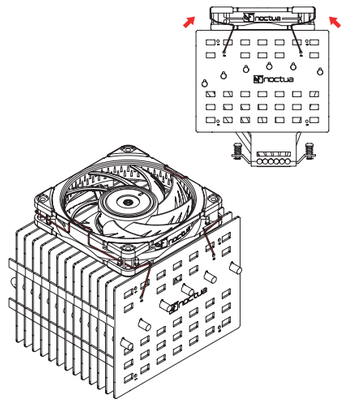


Then insert the tips of the fan clips into the correct hole set.



Place the fan on the heatsink and pull the clips over the fan to hold it in place.





Connect the fan to one of the fan headers of your motherboard.

! Transporting your system

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! Warranty, support and FAQs

Even with high-grade products and strict quality control, the possibility of defects cannot be eliminated entirely. Therefore, we aim at providing the highest possible level of reliability and convenience by offering a warranty period of 6 years and direct, fast and straightforward RMA service. Should you encounter any problems with your NH-P1, please don't hesitate to contact our support team (support@noctua.at).

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! LGA20xx

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Yours sincerely,

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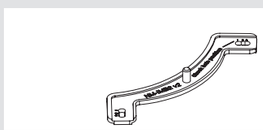
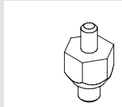
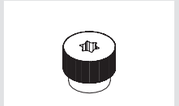


2x NM-IMB2 mounting bars



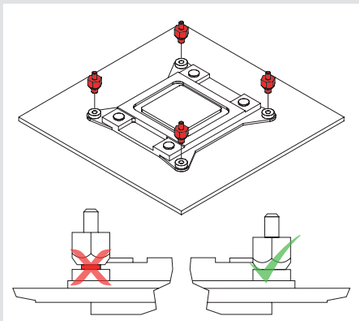
4x NM-IBT2 bolts



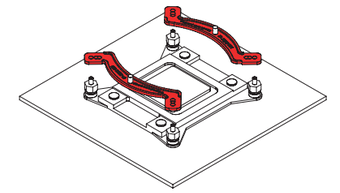
4x NM-ITS1-TX thumb screws

1 Installing the mounting bars

First screw the NM-IBT2 bolts into the screw threads of the LGA20xx socket frame.

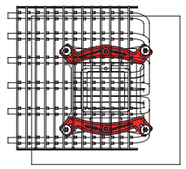


Then put the NM-IMB2 mounting bars onto the bolts.

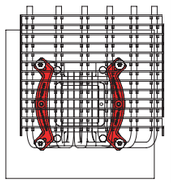


Caution: Choose the alignment of the mounting bars according to the desired final orientation of the cooler.

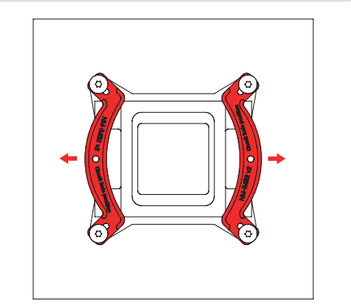
Orientation A



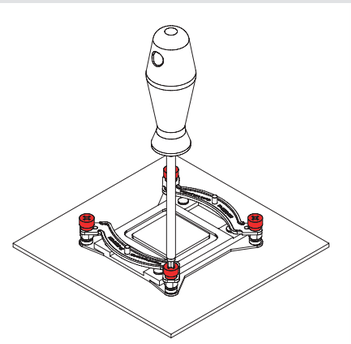
Orientation B



Caution: Make sure that the curved sides of the mounting bars are pointing outwards.



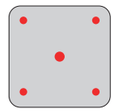
Fix the mounting bars using the four NM-ITS1-TX thumb screws.



Caution: Gently tighten the screws until they stop, but do not use excessive force (max. torque 0.6 Nm).

2 Applying the thermal paste

If there are residual traces of thermal paste or thermal pads on your CPU, please clean them off first. Then press 4 small dots (~2mm diameter) near the corners plus 1 dot (3-4mm diameter) of NT-H2 in the centre of the heat spreader.



Caution: Applying too much thermal paste will lower heat conductivity and cooling performance!

3 Fastening the heatsink to the CPU

Please refer to step 6 of the LGA1700, LGA1200 & LGA115x installation manual.

4 Fan Setup

Please refer to step 7 of the LGA1700, LGA1200 & LGA115x installation manual.

! Transporting your system

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NOCTUA NH-P1
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! AMD (AM4 & AM5)

Dear customer,

Thank you very much for choosing the Noctua NH-P1. The NH-P1 is Noctua's first passive CPU cooler and has been custom-designed for fanless operation from ground up: In enclosures with good natural convection, its six heat-pipes and thick, widely spaced heat-sink fins enable it to cool modern high-end CPUs with low to moderate heat dissipation completely passively. Please take a look at our setup guidelines in order to make sure that you will get optimal results. Enjoy your Noctua NH-P1!

Yours sincerely,

Roland Mossig, Noctua CEO

This manual will guide you through the installation process of the SecuFirm2+™ mounting system step by step.

Prior to installing the cooler, please consult the compatibility centre on our website (ncc.noctua.at) and verify that the cooler is fully compatible with your motherboard.

Please also make sure that your PC case offers sufficient clearance for the cooler and that there are no compatibility issues with any other components (e.g. tall RAM modules).

Double check that the heatsink and fan clips do not make contact with the VGA card, other PCIe cards, motherboard heatsinks or any other components.

Noctua cannot be held responsible for any damage or losses caused by compatibility issues.
Should you encounter any difficulties, please check the FAQs on our website (www.noctua.at/faqs) and don't hesitate to contact our support team at support@noctua.at.

Multilingual versions of this manual are available on our website: www.noctua.at/manuals

Caution: In order to get optimal results when building passively cooled systems using the NH-P1, it is important to follow some general guidelines.

Please refer to the following page for detailed guidelines and recommendations on how to set up your system for best results:
https://noctua.at/en/nh-p1-setup-guidelines

The NH-P1 strictly requires either a fanless PC case with good natural convection, an open benchtable type setup or a PC case with fans in order to achieve its full performance.

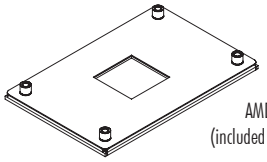
We offer a list of recommended cases for completely fanless systems using the NH-P1:
https://noctua.at/en/nh-p1-recommended-cases

While the NH-P1 provides first-rate performance for a passive cooler, it is not suitable for overclocking or CPUs that create high heat-loads.

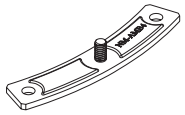
Please note that the TDP (Thermal Design Power) rating or amount of heat dissipation that the cooler can handle not only depends on the chassis and various other factors such as ambient temperature or other components inside the system, but also generally varies from CPU model to CPU model. For this reason, we don't give a general TDP specification but rather refer to our CPU compatibility list where we indicate which heat-load the cooler can be expected to support on a particular CPU in a fully optimised setup (see our setup guidelines): https://ncc.noctua.at/s/nh-p1-cpus

If necessary, Noctua recommends adding a near-inaudible 120mm fan like the NF-A12x25 LS-PWM to the heatsink for improved performance headroom.

Required mounting parts:

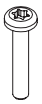


AMD stock backplate
(included with the motherboard)



2x NM-AMB4
mounting bars

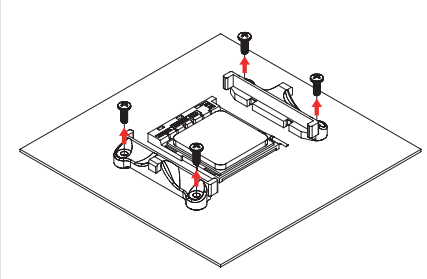
4x NM-APS4
grey plastic spacers



4x NM-ALS1-TX
long screws

1 Removing the stock retention module – putting the backplate in place

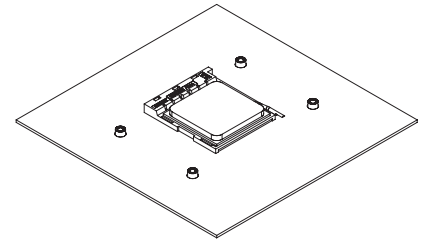
If your motherboard comes with a pre-installed CPU cooler retention module, please first remove it by unscrewing it from the backplate. The SecuFirm2+™ mounting system will install directly to the stock backplate, so please keep it in place.



If your motherboard does not come with a pre-installed CPU cooler retention module, the AMD stock backplate should be included with the motherboard accessories.

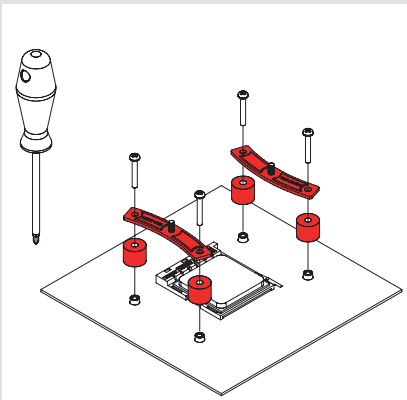
Please put the backplate on the rear side of the motherboard so that the screw threads of the backplate stick through the mounting holes of the motherboard as shown below.

If your motherboard does not include a stock backplate, please contact our Noctua service team at support@noctua.at.

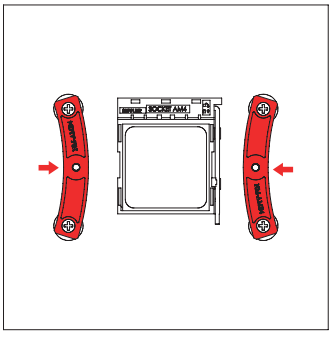


2 Attaching the mounting bars

First put the plastic spacers onto the screw threads of the backplate, then fix the NM-AMB4 mounting bars using the four NM-ALS1-TX long screws.



Make sure that the curved sides of the mounting bars are pointing inwards.



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NOCTUA NH-P1
INSTALLATION MANUAL

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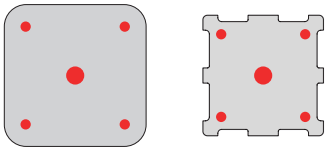
3 Applying the thermal paste

If there are residual traces of thermal paste or thermal pads on your CPU, please clean them off first.

Apply 5 small dots; 4 small dots with ~2mm diameter near the corners plus 1 dot with 3-4mm diameter in the centre:



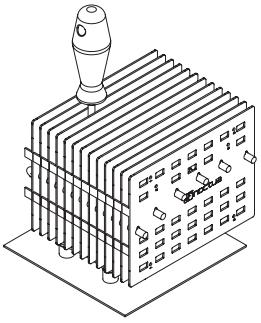
AM4 AM5

Caution: Applying too much thermal paste will lower heat conductivity and cooling performance!

4 Fastening the heatsink to the CPU

Caution: Please first take off the protection cover at the bottom side of the heat-sink.

Then put the heatsink onto the CPU and screw it to the screw threads of the mounting bars. Perform 2-3 turns on each screw, then repeat until both are fully tightened.

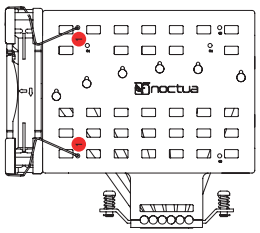


Caution: Gently tighten the screws until they stop, but don't use excessive force (max. torque 0.6 Nm).

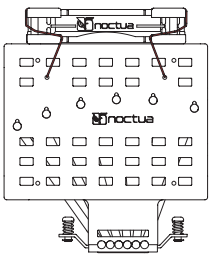
5 Fan setup

While the NH-P1 has been designed for passive operation, its cooling performance can be significantly improved by adding a near-silent low-speed fan such as the NF-A12x25 LS-PWM. In order to install the fan using the supplied fan clips, please first decide on which side of the cooler you would like to install the fan and identify the correct hole set (1/2/3):

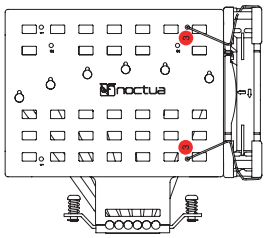
Hole set 1



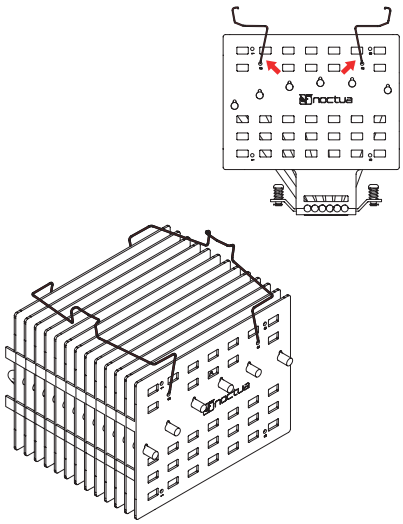
Hole set 2



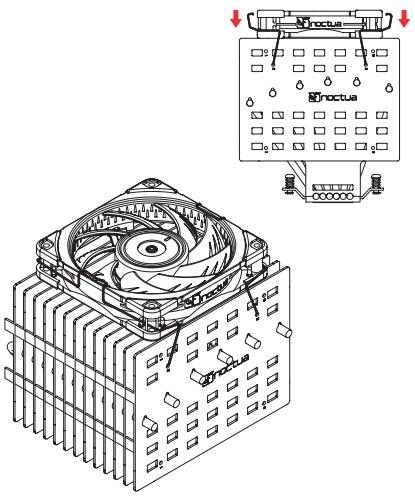
Hole set 3

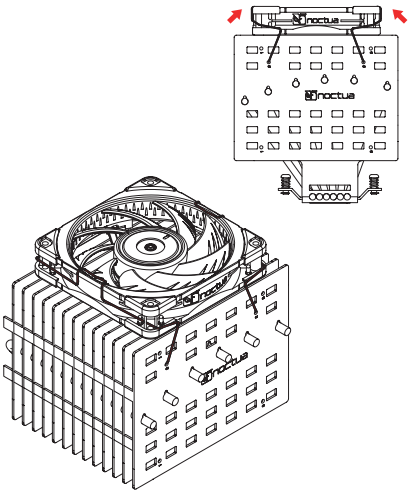


Then insert the tips of the fan clips into the correct hole set.



Place the fan on the heatsink and pull the clips over the fan to hold it in place.





Connect the fan to one of the fan headers of your motherboard.

! Transporting your system

As it is not possible to reliably calculate or control the forces that act upon a system during transport (e.g. in shipping), we generally recommend, for safety reasons, taking the cooler off. Noctua cannot be held responsible for any damage that may arise due to excessive stress during transport if you keep the heatsink installed.

! Warranty, support and FAQs

Even with high-grade products and strict quality control, the possibility of defects cannot be eliminated entirely. Therefore, we aim at providing the highest possible level of reliability and convenience by offering a warranty period of 6 years and direct, fast and straightforward RMA service. Should you encounter any problems with your NH-P1, please don't hesitate to contact our support team (support@noctua.at).

Please also consult the FAQ section on our website:
www.noctua.at/faqs

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